

REMARKS

Claims 1 and 3 – 6 are pending and under consideration in the above-identified application and Claim 2 was previously cancelled.

In the Office Action, Claims 1 and 3 – 6 were rejected.

In this Amendment, Claim 1 is amended. No new matter has been introduced as a result of this Amendment.

Accordingly, Claim 1 and 3 – 6 remain at issue.

I. 35 U.S.C. § 103 Obviousness Rejection of Claims 1, 4 and 6

Claims 1, 4 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyachi in view of Sakamoto (U.S. Patent No. 6,853,421) and further in view of Kanesaka (U.S. Patent No. 6,897,923). Although Applicants respectfully traverse this rejection, Claim 1 has been amended to clarify the invention and remove any ambiguities that may have been at the basis of this rejection.

Claim 1 is directed to a liquid crystal panel, which comprises a driving substrate, pixels on a surface of the driving substrate, each of the pixels including a pixel electrode and a transistor connected to the pixel electrode, signal lines and scanning lines connected to the transistors, an alignment film rubbed in a direction substantially parallel to the signal lines or the scanning lines, a counter substrate adjacent the alignment film, a liquid crystal layer between the driving substrate and the counter substrate, and at least one projection provided in each of the pixels *on the pixel electrode* at a substantially central position, relative to two opposite boundaries of the corresponding pixel, the two opposite boundaries being parallel to the rubbing direction, the central position being adjacent to a starting position of the rubbing direction and to a boundary not being parallel to the rubbing direction.

That is, at least one projection is provided in each of the pixels on the pixel electrode at a substantially central position, relative to two opposite boundaries of the corresponding pixel, the two opposite boundaries being parallel to the rubbing direction, the central position being

adjacent to a starting position of the rubbing direction and to a boundary not being parallel to the rubbing direction.

The Examiner acknowledges that both Miyachi and Sakamoto fail to teach or suggest that the at least one projection is provided at a central position relative to opposite and parallel boundaries, which is adjacent to a starting position of the rubbing direction and closer to one of two second boundaries not being parallel to the rubbing direction than to a center of the corresponding pixel, but states that Kanesaka does allegedly disclose this projection arrangement.

However, Applicants submit that Kanesaka fails to teach or suggest that the at least one projection is provided on the pixel electrode. In fact, Kanesaka teaches away from this claimed feature in that the protrusions or fine particles BZ (projections) are provided below the reflective electrode (RFE). Kanesaka states in reference to FIG.10 that (emphasis added):

“FIG. 10 is a plan view of one pixel of the reflective-type liquid crystal display device according to the present invention which is obtained by observing the display device from another substrate SUB2 side after removing an orientation film of one substrate corresponding to the first embodiment of the present invention. In FIG. 10, GL indicates gate lines and DL indicates drain lines. *The fine particles BZ according to the present invention are distributed in a region of a reflective electrode RFE and the surface of the reflective electrode RFE has a rough surface which follows the fine particles BZ.* Due to such a reflective electrode RFE, the incident light from another substrate side can be efficiently reflected on and hence, the bright image can be obtained.”

See column 11, lines 20 – 32. As such, in Kanesaka the projections are distributed below the reflective electrode RFE so as to provide it with a rough surface.

Thus, Miyachi, Sakamoto and Kanesaka may not be properly combined to reject Claim 1. Therefore, Claim 1 is patentable over these three references, taken singly or in combination with each other, as are dependent Claims 4 and 6 for at least the same reasons.

Applicants respectfully request that the claim rejections under 35 U.S.C 103(a) be withdrawn.

II. 35 U.S.C. § 103 Obviousness Rejection of Claim 3

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyachi in view of Sakamoto in view of Kanesaka and further in view of Miura et al. (U.S. Patent No. 5,877,836). Applicants respectfully traverse this rejection.

Claim 3 is dependent upon Claim 1, shown above to be allowable over Miyachi in view of Sakamoto and in view of Kanesaka. Moreover, in addition to Miyachi, Sakamoto and Kanesaka, Miura also fails to teach or suggest the above discussed distinguishable limitation of Claim 1. Thus, Claim 1 is patentable over the cited references, taken singly or in any combination with each other, as is dependent Claim 3, for at least the same reasons.

Accordingly, Applicants respectfully request that these 103(a) rejections be withdrawn.

III. 35 U.S.C. § 103 Obviousness Rejection of Claim 5

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyachi in view of Sakamoto in view of Kanesaka in further view of Kaise et al. ("Kaise") (U.S. Patent No. 6,788,372). Applicants respectfully traverse this rejection.

Claim 5 is dependent upon Claim 1, shown above to be allowable over Miyachi in view of Sakamoto and in view of Kanesaka. Moreover, in addition to Miyachi, Sakamoto and Kanesaka, Kaise also fails to teach or suggest the above discussed distinguishable limitation of Claim 1. Thus, Claim 1 is patentable over the cited references, taken singly or in any combination with each other, as is dependent Claim 5, for at least the same reasons.

Accordingly, Applicants respectfully request that these 103(a) rejections be withdrawn.

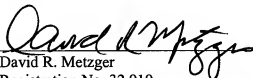
IV. Conclusion

In view of the above amendments and remarks, Applicant submits that Claims 1 and 3 – 6 are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

Dated: Sept 11, 2001

By:



David R. Metzger
Registration No. 32,919
SONNENSCHN NATH & ROSENTHAL LLP
P.O. Box 061080
Wacker Drive Station, Sears Tower
Chicago, Illinois 60606-1080
(312) 876-8000